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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

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| SCRIPTGEN PHARMACEUTICALS, INC., Plaintiff, v. 3-DIMENSIONAL PHARMACEUTICALS, INC., Defendant. | ) | Civil Action No. 98-583-GMS |

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Richard L. Horwitz, Esquire, Joanne Ceballos, Esquire, and William J. Dorgan, Esquire of POTTER, ANDERSON & CORROON LLP, Wilmington, Delaware.
Of Counsel: John M. Callagy, Esquire and Steven P. Caley, Esquire of KELLEY, DRYE & WARREN, New York, New York; and S. Peter Ludwig, Esquire, Robert Schaffer, Esquire, and Scott G. Lindvall, Esquire of DARBY & DARBY PC, New York, New York.
Attorneys for Plaintiff.

Jack B. Blumenfeld, Esquire and Julia Heaney, Esquire of MORRIS, NICHOLS, ARSHT & TUNNELL, Wilmington, Delaware.
Of Counsel: Jorge A. Goldstein, Esquire and David K.S. Cornwell, Esquire of STERNE, KESSLER, GOLDSTEIN & FOX, P.L.L.C., Washington, D.C.; and Thomas B. Kenworthy, Esquire and Jami Wintz McKeon, Esquire of MORGAN, LEWIS & BROCKIUS LLP, Philadelphia, Pennsylvania.
Attorneys for Defendant.

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## MEMORANDUM OPINION

December 15, 1999.

Wilmington, Delaware.

SLEET, District Judge.

I. INTRODUCTION.

On October 13, 1998, Scriptgen Pharmaceuticals, Inc. ("Scriptgen") filed a complaint with this court, alleging that 3-Dimensional Pharmaceuticals, Inc. ("3-DP") has infringed on various claims of U.S. Patent Nos. 5,585,277 ("the '277 patent") and 5,679,582 ("the '582 patent"). Both of these patents are entitled, "Screening Method for Identifying Ligands for Target Proteins." In general, the claims of these related patents are directed to a novel method for determining whether an agent known as a "ligand" will bind to a target protein. This technology is particularly useful in the field of discovering new pharmaceuticals since a ligand which binds to a protein that either causes or is associated with a disease, or other physiological condition, can be later tested to determine its potential therapeutic value.

On November 22, 1999, the court held a *Markman* hearing to assist it in interpreting the disputed language of the asserted claims. This opinion sets forth the court's decision on the meaning of these disputed terms.

II. STANDARD OF REVIEW.

Determining the scope or meaning of the claims of a patent by construing or interpreting their disputed terms is a question of law which only the court can answer. *See, e.g., Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 886, 870 (Fed. Cir. 1998); *CCPI, Inc. v. American Premier, Inc.*, 966 F. Supp. 276, 278 (D. Del. 1997). When making this determination, the court must "first look to the intrinsic evidence of the record, including the claims of the patent, the written description, and the prosecution history." *See Phillips Petroleum*, 157 F.3d at 870 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). As the *Vitronics* court noted, this "evidence is the most significant source of the legally operative meaning of the disputed claim

meaning into terms that is inconsistent with what the inventor set forth in his or her patent" since these individuals "played no part in the creation and prosecution of the patent"). With these standards in mind, the court turns to its analysis of the disputed terms of the patents in suit.

## III. DISCUSSION.

The parties have presented a representative claim for the court's review. This claim contains all of the disputed terms from the patents in suit. It reads as follows:

> 1. A method for *rapid, large scale screening* to identify a ligand that binds to a predetermined target protein, comprising the steps
>
> (a) selecting as *test ligands* a *plurality* of compounds *not known to bind* to the *target protein*;
>
> (b) *incubating* each of said test ligands and the target protein to produce a test combination;
>
> (c) *incubating* the target protein in the absence of a test ligand to produce a control combination;
>
> (d) *treating* the test and control combinations to cause the target protein in the control combination to unfold to a measurable extent;
>
> (e) *determining* the *extent* to which the target protein occurs in the folded state, the unfolded state or both in the test combination and in the control combination;
>
> (f) *comparing* the determination made in step (e) between the test and control combinations, wherein if the target protein is present in the folded state to a greater extent in the test combination than in the control combination, the test ligand is a ligand that binds to the target protein; and
>
> (g) repeating steps (b) - (f) with a *plurality* of said test ligands until a ligand that binds to the target protein is identified.

The parties dispute the meanings of the emphasized terms or the procedures required by them. The court will address these issues in turn.

A. Rapid, Large Scale Screening.

The preamble of the representative claim begins with the phrase "[a] method for rapid, large scale screening to identify a ligand that binds to a . . . target protein . . . ."

3-DP argues that because this language merely recites the intended purpose of the claimed invention, it does not serve as a claim limitation. *See, e.g., Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1350 (Fed. Cir. 1998). In response, Scriptgen contends that this language "give[s] life, meaning, and vitality" to the claim and, therefore, should be interpreted as a limitation. *See, e.g., Pitney Bowes*, 182 F.3d at 1306; *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989).

For example, both specifications explain that "[l]arge scale screening approaches can be complicated by a number of factors." For this reason, the specification from the '582 patent continues, "there is a need in the art for a rapid, cost-effective, high throughput assay that enables the screening of large numbers of compounds for their ability to bind [to] . . . relevant proteins." And, as the specification from the '277 patents states, the claimed "method provides an inexpensive, quick, and efficient means to determine the ability of a large array of ligands to bind [to] their respective target protein or proteins." Furthermore, Scriptgen notes, the "rapid, large scale screening" phrase was introduced during the prosecution history of the '277 patent in order to overcome several prior art rejections. As the inventors explained, "[n]owhere in the cited references [wa]s there any suggestion of a broadly applicable, high-throughput method to search for protein-binding compounds that d[id] not rely on known biologically significant interactions." In other words, unlike the prior

methods, "[t]he present invention provide[s] a rapid, high-throughput screening method for detecting any compound that has the capability of binding anywhere on the target protein . . . ."

In this respect, the phrase "rapid, large scale screening" gives life or meaning to the asserted claims which contain this language in their preamble. In short, these claims are not directed to *any* screening method which identifies a ligand that binds to a target protein. Instead, these claims address only those methods which are rapid and large scale.

Of course, interpreting the term "rapid, large scale screening" as a limitation only begs the question: What is "rapid" and "large scale"? On this point, the parties go to great length to dispute whether "rapid, large scale screening" is synonymous with "high throughput screening." The court, however, need not resolve that question here because even if the two terms were synonymous, neither one of them is defined within the patent specifications. Therefore, their "ordinary meaning to one skilled in the art controls." *See, e.g., Ekchian v. The Home Depot, Inc.*, 104 F.3d 1299, 1303 (Fed. Cir. 1997) (citing *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1564 (Fed. Cir. 1996); *Quantum Corp. v. Rodime, PLC*, 65 F.3d 1577, 1580 (Fed. Cir. 1995)). In this case, the court believes that it may safely presume that the inventors are skilled in the art.

During the prosecution history of the '277 patent, one of the inventors submitted a declaration to the U.S. Patent and Trademark Office in support of the amendments which were made to overcome the prior art references. The declaration explained that "the methods of the present invention were used to screen several thousand test ligands for their ability to bind to . . . target proteins." It appears that 5,000 compounds were tested in this particular instance. Moreover, the specification of the '582 patent discloses two embodiments where 3,600 and 4,000 compounds were tested, respectively. Thus, it seems as if, by "large scale," the inventors meant that the method would

be used to test thousands of compounds. This interpretation is supported by the following language from the specification for the '582 patent: "The present invention can be applied to large-scale, systematic high-throughput procedures that allow a cost-effective screening of *many thousands* of test ligands.") (emphasis added).

As far as the term "rapid" is concerned, the court notes that the inventor's declaration continues by explaining that, after an appropriate incubation period, the compounds were tested through various methods known to those skilled in the art. This incubation period could last for a number of hours or, in some instances, upwards to an entire day, depending upon the technique used. Thus, the rapidity of the screening method would appear to depend upon not only the speed of the available technology but also type of incubation process employed in addition to, logically, the number of compounds tested.

Therefore, after considering the intrinsic evidence, the court concludes that the phrase "rapid, large scale screening" means that several thousand test ligands are to be screened through a process which can be completed within a number of hours or a number of days, depending upon the technology employed and the number of compounds tested.

In adopting this interpretation, the court has attempted to walk a fine line. As the Federal Circuit has explained, "[o]rdinarily, a claim element that is claimed in general, descriptive words . . . is not limited to the numbers [set forth] in the specification or the other claims." *See Modine Mfg. Co. v. United States Intn'l Trade Comm'n*, 75 F.3d 1545, 1551 (Fed. Cir. 1996). For this reason, "[i]t is usually incorrect to read numerical precision into a claim from which it is absent . . . ." *See id.*; *cf. Eckhian v. The Home Depot, Inc.*, 104 F.3d 1299, 1303 (Fed. Cir. 1997) (cautioning against limiting a claim to only those specific embodiments which were disclosed in the patent specification)

(citing *Latriam Corp. v. Cambridge Wire & Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1988); *Texas Instruments, Inc. v. United States Intn'l Trade Comm'n*, 805 F.2d 1558, 1563 (Fed. Cir. 1986)). Thus, the court is understandably hesitant to assign a fixed numerical value or range of values to either "rapid" or "large scale."

Nevertheless, the court also believes that failing to provide any range of values would run a different risk. In particular, it would seem to turn the issue of claim interpretation over to the "experts" since only those who were skilled in the art could explain how quick and voluminous this "rapid, large scale screening" had to be. The Federal Circuit, however, has discouraged this type of approach since it generally results in a series of *post hoc* rationalizations, by "individuals who played no part in the creation and prosecution of the patent," that are made in an attempt to "inject a new meaning into terms [which] is inconsistent with what the inventor set forth in his . . . patent." *See Bell & Howell*, 132 F.3d at 706.

For these reasons, the court has turned to the patent specifications and the prosecution histories in order to discern what the inventors meant when they used the term "rapid, large scale screening." As previously discussed, they described tests which screened thousands of test ligands, not dozens or hundreds. Consequently, the court believes that interpreting the term "large scale" as meaning that several thousand compounds are to be screened is appropriate. Likewise, in light of the examples set forth in both the specifications and the prosecutions histories, it appears as if these screening methods could be completed within a number of hours or, at most, a number of days, depending upon the technology employed and the number of compounds tested. The court will, therefore, assign these meanings to the phrase "rapid, large scale screening" so that the asserted claims which contain this language in their preamble may possess this particular life and vitality.

B. Test Ligand.

The specification of the '277 patent explains that "the term 'test ligand' refers to an agent which can be a compound, molecule, or complex which is being tested for its ability to bind to a target protein . . . ." The specification goes on to state that a "test ligand . . . can be virtually any agent, including but not limited to metals polypeptides, proteins, lipids, polysaccharides, polynucleotides, and small organic molecules."

The specification of the '582 patent provides a similarly expansive definition. In particular, it defines the term "test ligand" as "an agent comprising a compound, molecule, or complex, which is being tested for its ability to bind to a target protein. Test ligands can be virtually any agent, including without limitation metals, peptides, proteins, lipids, polysaccharides, nucleic acids, small organic molecules, and combination[s] thereof."

Noting that inventors may act as their own lexicographers, *see, e.g.,Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998), *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1343 (Fed. Cir. 1998), 3-DP asks the court to give the term "test ligand" the meaning expressly provided in the patent specifications—namely, "an agent [which is or which comprises] a compound, molecule, or complex which is being tested for its ability to bind to a target protein."

In response, Scriptgen argues that a narrower definition should control. In particular, Scriptgen claims that the term "test ligand" is "specially defined as an agent which is a compound, molecule, or complex screened to determine its potential therapeutic effectiveness." In support of this interpretation, Scriptgen cites to various portions of both patent specifications.

For example, the Summary of the Invention provided in the specification for the '277 patent states that:

> The method of the present invention is useful for identifying a ligand of a target protein and is particularly useful for screening test ligands to identify a ligand which binds [to] a target protein, such as a protein which is associated with a condition or disease or which participates in physiological regulation. Thus, the present method is useful to identify a ligand which can be used therapeutically (*i.e.*, for diagnosing, preventing, or treating a condition or disease) or a ligand which can be used to regulate physiological function or which can serve as a lead compound for identification of a therapeutically useful compound. Through the present method, a ligand which binds [to] a target protein is identified; such a ligand can then be further assessed, if needed, for its therapeutic effectiveness, as well as its safety, using known methods.

This specification continues by explaining that "the term 'test ligand' refers to an agent . . . which is being tested for its ability to bind to a target protein, such as a protein or protein complex known to be associated with or causative of a disease or condition in a living organism . . . ." Furthermore, as the specification from the '582 patent states, "[i]f the target protein to which the test ligand binds is associated with or causative of a disease or condition, the ligand may be useful in diagnosing, preventing, or treating the disease or condition."

Thus, Scriptgen appears to argue that even though its patent specifications expressly define the term "test ligand" as "an agent . . . which is being tested for its ability to bind to a target protein," the court should adopt a more narrow definition since one of the main purposes of the invention (if not its primary purpose) is "to identify a ligand which can be used therapeutically (*i.e.*, for diagnosing, preventing, or treating a condition or disease) or a ligand which can be used to regulate physiological function . . . ."

However, "[w]here a specification does not require a limitation, that limitation should not be read from the specification into the claims." *See Intel Corp. v. U.S. Intn'l Trade Comm'n*, 946 F.2d

821. 836 (Fed. Cir. 1991) (quoting *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 987 (Fed. Cir. 1988)). In addition, "just as the preferred embodiment itself does not limit claim terms, mere inferences drawn from the description of an embodiment of the invention cannot serve to limit claim terms." *See Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 992 (Fed. Cir. 1992) (citing *Renishaw*, 158 F.3d at 1248; *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)).

Here, neither the claims nor the specifications require a test ligand to be screened solely for the purposes of determining its potential therapeutic effectiveness. Instead, as these two forms of intrinsic evidence make clear, a test ligand is screened in order to determine whether or not it binds to the target protein. Admittedly, once this determination is made, the "ligand can *then* be further assessed, *if needed*, for its therapeutic effectiveness . . . ." (emphasis added). However, this step is neither contained within the asserted claims of the patents in suit nor required by the specifications. The court will, therefore, refrain from reading this limitation into these claims.

For these reasons, the court affords the term "test ligand" the meaning indicated by the intrinsic evidence—specifically, as meaning "an agent which is a compound, molecule, or complex that is being tested for its ability to bind to a target protein."

C. Target Protein.

The specification of the '277 patent defines a "target protein" as "a polypeptide, protein, or protein complex for which identification of a ligand or binding partner is desired, such as a polypeptide or protein that is known or believed to be involved in the etiology of a given disease, condition, or pathophysiological state, or in the regulation of physiological function." The specification also provides that the test ligand "is being tested for its ability to bind to a target protein,

such as a protein or protein complex known to be associated or causative of a disease or condition in a living organism, such as a vertebrate, particularly a human and even more particularly a human."

The specification of the '582 patent provides a similar definition. In particular, it explains that "the term 'target protein' refers to a peptide, protein, or protein complex for which identification of a ligand or binding partner is desired. Target proteins include without limitation peptides or proteins known or believed to be involved in the etiology of a given disease, condition or pathophysiological state, or in the regulation of physiological function. Target proteins may be derived from any living organism, such as a vertebrate, particularly a mammal and even more particularly, a human."

In the face of these rather broad definitions, Scriptgen once again advances a fairly narrow interpretation. Specifically, Scriptgen contends that the term "target protein" is "specially defined as a protein known or believed to be involved in causing a given disease, condition, or pathophysiological state, or in the regulation of physiological function."

The court declines to adopt this interpretation. As the express language of the patent specifications make clear, while "[t]arget proteins include . . . peptides or proteins known or believed to be involved in the etiology of a given disease, condition or pathophysiological state, or in the regulation of physiological function," they are not limited to only these types of peptides or proteins. Instead, they include any "polypeptide, protein, or protein complex for which identification of a ligand or binding partner is desired."

Again, the court will not read a limitation into the claims which the specification does not expressly provide. *See Intel*, 946 F.2d at 836. Nor will the court draw inferences from either the specification or the preferred embodiment described within it in order limit the claim terms. *See Johnson Worldwide*, 175 F.3d at 992. For these reasons, the court affords the term "target protein"

the meaning indicated by the patent claims and specifications—namely, as meaning "a peptide, polypeptide, protein, or protein complex for which identification of a ligand or binding partner is desired."

D. Plurality As Used In The Selecting Step.

Noting that the term "plurality" is not defined in either one of the patent specifications, 3-DP contends that the ordinary meaning of the word should control. *See, e.g., Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1315 (Fed. Cir. 1999) ("Absent an express definition in the specification of a particular claim term, the words are given their ordinary and accustomed meaning . . . ."); *Desper Prods., Inc. v. QSound Labs, Inc.*, 157 F.3d 1325, 1336 (Fed. Cir. 1998) ("Common words, unless the context suggests otherwise, should be interpreted according to their ordinary meaning."). Because "plurality" normally means "the state of being plural" and because "plural" generally means "more than one," *see Webster's Third New Intn'l Dictionary* 1745 (1993), 3-DP argues that the term "plurality," as used in the asserted claims, means "more than one" or "two or more."

Scriptgen does not object to this proposed interpretation, conceding that the library or array of compounds to be tested must "contain[] at least two or more test ligands." Therefore, the court will afford the term "plurality" its ordinary meaning, *i.e.*, as meaning "two or more."

E. Not Known To Bind.

Citing to portions of the patent specifications and the prosecution histories, Scriptgen claims that the term "not known to bind" means "neither known, suspected, nor suggested to bind." For example, the specifications of both the '277 patent and the '582 patent explain that individuals who employed some of the previous screening methods were "frequently forced to chose novel chemical compounds based on some prior knowledge suggesting [that] the compounds are likely to be

effective." In addition, in the prosecution histories of both of the patents, the inventors explained that the claimed "method involves a repetitive screening procedure by which compounds not previously known or suspected to bind to a target protein can be identified . . . ." (emphasis omitted).

In response, 3-DP points out that the claim language expressly states "not known to bind." It does not read "neither known, suspected, nor suggested to bind." For this reason, 3-DP argues that these additional limitations should not be read into the claims. Instead, 3-DP contends, the plain meaning of "known" should control, especially since the term is not defined in the specification. In other words, according to 3-DP, the court should interpret the term "not known to bind" as meaning "not known with certainty to bind" or, more specifically, "not known with scientific certainty to bind."

The court agrees. Although the inventors could have easily used a different term, such as "neither known nor suspected to bind," in their claims, they chose to use the term "not known to bind." Because this term is not defined in the specification, its ordinary meaning should control. *See, e.g., Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 951 (Fed. Cir. 1993) (citing *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1579 (Fed. Cir. 1988)). In the context of these patents, that meaning would appear to be "to apprehend with certitude as true, factual, sure, or valid" or to "perceive . . . with clarity and the perception of certainty." *See Webster's Third New Intn'l Dictionary* 1252. Even though the inventors may have intended a different meaning and expressed these intentions during the prosecution histories of both patents, they failed to include this express definition in either their patent claims or their specifications. For this reason, the court will not now afford a different interpretation to the term "not known to bind" in order to correct a problem which has resulted from imprecise drafting. *See Hoganas*, 9 F.3d at 951. Consequently, the court will give

the term "not known to bind" its plain or ordinary meaning—namely, a meaning "not know with scientific certainty to bind."[1]

F. The First Incubating Step.

In its claim construction chart, but not in its briefs,[2] 3-DP argues that the first incubating step of the representative claim requires the test ligands and the target protein to be placed in a liquid solution. While 3-DP cites to the patent specifications to support its proposed interpretation, the specification of the '277 patent clearly states that "[t]he present method can be carried out in solution or, in some embodiments of the method, the target protein can be present on a solid phase (*e.g.*,

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[1] If it is any consolation to Scriptgen, the court notes that the terms "not known with scientific certainty to bind" and "neither known, nor suspected, nor suggested to bind" are not necessarily mutually exclusive. For example, a compound which is "not known to bind" may also be "not suspected" or "not suggested" to bind. Likewise, a compound which is "suggested" or "suspected" to bind would still be "not known to bind" if there was less than scientific certainty about its binding properties.

[2] On several occasions, 3-DP set forth its interpretation of a disputed term only in its claim construction chart. 3-DP then followed this proposed construction with a supporting citation to the patent specifications. In these instances, 3-DP did not provide any argument on the point in the body of its brief. Instead, it apparently elected to rely solely on the statements which it made in its claim construction chart.

In the opinion of the court, this tactic is entirely inappropriate since it effectively allows a party to unilaterally grant itself an extension of the page limitations proscribed by the local rules. For this reason, the court initially considered treating the "arguments" made by 3-DP in its claim construction chart as waived since they were not advanced in the body of the brief. However, this approach would have only served to punish 3-DP for a questionable strategy employed by its attorneys.

Thus, while the court will address the interpretations set forth by 3-DP in its claim construction chart, it is not condoning the tactic used to place these interpretations at issue. Instead, this court is using this opportunity to place counsel on notice that this type of conduct will not be tolerated in future patent cases, irrespective of the parties involved. *See Mosel Vitelic Corp. v. Micron Technology, Inc.*, Civ. A. No. 98-449, slip op. at 1-2 (D. Del. Dec. 9, 1999) (striking from the record a party's seventy-one page claim construction chart as well as its sixty-five page opening and answering briefs because "[t]he court will not consider arguments set forth in claim construction charts which were not contained within the briefs").

linked covalently though a linker or otherwise to a bead." In addition, the specification from the '582 patent explains that "[i]n general, the test ligand is present in molar excess relative to the target protein. The target protein can be in a soluble form or, alternatively, can be bound to a solid phase matrix." Thus, neither patent specification supports the interpretation that the first incubating step must occur in a liquid solution. Furthermore, even if the specifications suggested otherwise, the court believes that it would be improper to read a limitation from the specifications into the claims since the claims themselves do not expressly provide for this limitation. *See, e.g., Johnson Worldwide*, 175 F.3d at 992 ("[J]ust as the preferred embodiment itself does not limit claim terms, mere inferences drawn from the description of an embodiment of the invention cannot serve to limit claim terms.") (citing *Renishaw*, 158 F.3d at 1248; *Constant*, 848 F.2d at 1571).

3-DP also argues that the first incubating step requires the conditions under which the screening method is carried out be empirically determined "ahead of time." According to 3-DP, the patent specifications support this definition. However, once again, 3-DP is incorrect.

The specification from the '277 patent plainly states that "[f]or each test-ligand-target protein combination, the conditions under which the present method is carried out will be determined empirically, using known methods." In addition, the specification of the '582 patent explains that "[e]xperimental conditions are determined empirically for each target protein." Nowhere in either one of these specifications does it state that these conditions must be determined "ahead of time." Moreover, even if the specifications did describe a preferred embodiment which contained this limitation, it would be improper to limit the asserted claims to only that one, particular embodiment. *See, e.g., Enercon GmbH v. International Trade Comm'n*, 151 F.3d 1376, 1384 (Fed. Cir. 1998) ("Generally, particular limitations or embodiments appearing in the specification will not be read into

the claims.") (quoting *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 867 (Fed. Cir. 1985)); *see also Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1277 (Fed. Cir. 1995) (cited in *Enercon*); *SRI Intn'l, Inc. v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 n. 14 (Fed. Cir. 1985) (en banc) (same).

For these reasons, the court will not interpret the first incubating step as requiring either the test combinations to be placed in a liquid solution or the conditions under which the screening method is carried out to be determined ahead of time.

G. The Second Incubating Step.

3-DP next contends that the second incubating step of the representative claim requires the test and control combinations to be placed under the same set of constant conditions.

The court fails to find any support for this proposed interpretation in either the claims, specifications or prosecution histories. Of course, logic would seem to dictate that the test and control combinations should be placed under the same set of conditions because, otherwise, the experiment would not be a controlled one. However, as the specification for the '582 patent explains, "[t]o adjust or optimize the ratio of the folded[-]unfolded protein or rate of folding or unfolding, denaturing conditions may be required, including the use of elevated temperatures, the addition of chaotropes or denaturants such as urea or guanidinium salts . . . ." The specification from the '277 patent contains essentially the same language, stating that "[t]o adjust or optimize the fraction of [an] unfolded target protein, denaturing conditions may be required for some target proteins. Such denaturing conditions might include the use of elevated temperatures, the addition of protein denaturants (*e.g.*, urea [or] guanidine) to the incubation mixture or use of both." There is no requirement that these conditions remain constant. Furthermore, even if such a limitation were expressed in the specifications, it would be inappropriate to subsequently read this limitation into the

claims since they do not provide for it. *See, e.g., Enercon*, 151 F.3d at 1384; *Transmatic*, 53 F.3d at 1277; *SRI Intn'l*, 775 F.2d at 1121 n. 14.

For these reasons, the court will not interpret the second incubating step as requiring the test and control combinations to be kept at the same set of constant conditions.

H. The Treating Step.

3-DP also argues that the treating step requires (1) the test and control conditions to be maintained under the same set of constant conditions which have been (2) empirically determined ahead of time so that (3) any possible rate of level of protein unfolding can be conveniently measured and that (4) the difference in the extent of this unfolding is optimized.

The court has already addressed the first two requirements advanced by 3-DP. There is no requirement that the test and control combinations be maintained under the same set of constant conditions or that these conditions be empirically determined ahead of time. Likewise, while the specification of the '277 patent states that the "conditions are chosen to ensure that the target protein unfolds to an appropriate extent" and, therefore, that "binding . . . can be measured conveniently," neither the claims nor the specifications require this measurement to be convenient in each and every instance. In addition, they do not require the difference in the extent of this folding or unfolding to be "optimized." Instead, as the specifications explain, this difference need only be "appropriate" or "detectible." More important, as the representative claim itself states, this difference need only be "measurable."

For these reasons, the court will decline to interpret the treating step as requiring the test and control conditions to be maintained under the same set of constant conditions which have been

empirically determined ahead of time so that any possible rate of level of protein unfolding can be conveniently measured and that the difference in the extent of this unfolding is optimized.

I. The Determining Step.

According to 3-DP, the determining step must be carried out through one of the seven known methods of identification disclosed in the specifications.

However, as the court has already discussed, it is inappropriate to read limitations into the patent claims from a portion of the specification which discusses a particular embodiment, especially when the claims do not invite this reference. *See, e.g., Enercon*, 151 F.3d at 1384; *Transmatic*, 53 F.3d at 1277; *SRI Intn'l*, 775 F.2d at 1121 n. 14. Moreover, as the specification from the '277 patent makes clear, the seven identified methods for making this determination are only "some of the means by which this [evaluation] can be done." The specification of the '582 patent contains similar language, explaining that:

> These methods include *without limitation* proteolysis of the target protein, binding of the target protein to appropriate surfaces, binding of specific antibodies to the target protein, binding of the target protein to molecular chaperones, binding of the target protein to immobilized ligands, and measurement of the aggregation of the target protein. *Other* physio-chemical techniques may also be used, either alone or in conjunction with the above methods; these include *without limitation* measurement of circular dichroism, ultraviolet and fluorescence spectroscopy and calorimetry.

(emphasis added).

Thus, the court will decline to adopt 3-DP's proposed interpretation of the determining step which would require this step to be carried out through one of the seven known methods of identification disclosed in the specifications.

J. Extent.

Noting that the term "extent" is not defined in either one of the patent specifications, 3-DP contends that the ordinary meaning of the word should control. *See, e.g., Zelinski*, 185 F.3d at 1315; *Desper Prods.*, 157 F.3d at 1336. Because "extent" in this instance would appear to serve as synonym for "amount" or "degree," 3-DP purports to advance this interpretation.[3] While Scriptgen appears to take issue with this proposed definition, it fails to provide an alternate construction. After reviewing the language of the representative claim, which discusses "the extent to which the target protein occurs in the folded state, the unfolded state or both in the test combination and in the control combination," the court will afford the term "extent" its ordinary meaning, *i.e.*, as meaning "amount" or "degree."

K. The Comparing Step.

Observing that the term "comparing" is also not defined in the patent specifications, 3-DP again argues that the ordinary meaning of this word should control. *See, e.g., Zelinski*, 185 F.3d at 1315; *Desper Prods.*, 157 F.3d at 1336. On this point, 3-DP is correct. The term "comparing" is not defined in the specification. Therefore, the word should be given its plain or ordinary meaning.

Generally, "compare" means "to examine the character or qualities of . . . two or more . . . things . . . esp[ecially] for the purpose of discovering resemblances or differences." *See Webster's Third New Int'l Dictionary* 462. 3-DP, however, attempts to take this definition one step further. In particular, 3-DP contends that, in light of this definition, "there must be a difference in the extent to which the target protein is present in the folded state, between the test and control combinations."

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[3] In actuality, it seems that 3-DP intends the words "amount" or "degree" to have a fairly narrow meaning. As the court will explain, 3-DP appears to argue that these two terms require there to be an actual "amount" or "degree" of folding or unfolding by the target protein.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE



SCRIPTGEN PHARMACEUTICALS, INC.,

Plaintiff,

v.

3-DIMENSIONAL PHARMACEUTICALS, INC.,

Defendant.

Civil Action No. 98-583-GMS

**ORDER**

For the reasons stated by the Court in its Memorandum Opinion of this date, IT IS HEREBY ORDERED, ADJUDGED, and DECREED that:

1. The term "rapid, large scale screening," as used in the preamble of the asserted claims of the patents in suit, means that several thousand test ligands are to be screened through a process which can be completed within a number of hours or, at most, a number of days;

2. The term "test ligand," as used in the asserted claims of the patents in suit, means "an agent which is a compound, molecule, or complex that is being tested for its ability to bind to a target protein;"

3. The term "target protein," as used in the asserted claims of the patents in suit, means "a peptide, polypeptide, protein, or protein complex for which identification of a ligand or binding partner is desired;"

4. The term "plurality," as used in the asserted claims of the patents in suit, means "two or more;"

5. The term "not known to bind," as used in the asserted claims of the patents in suit, means "not known with scientific certainty to bind;"

6. As used in the asserted claims of the patents in suit, the first "incubating" step which results in the creation of a test combination does not require the test combination to be placed in a liquid solution or the conditions under which the screening method is carried out to be determined ahead of time;

7. To the extent that it is contained within the asserted claims of the patents in suit, the second "incubating" step which results in the creation of a control combination does not require the test and control conditions to be maintained under the same set of constant conditions which have been empirically determined ahead of time so that any possible rate or level of protein unfolding can be conveniently measured and that the difference in the extent of this unfolding is optimized;

8. The term "extent," as used in the asserted claims of the patents in suit, means "amount" or, in the alternative, "degree;"

9. To the extent that it is contained within the asserted claims of the patents in suit, the "determining" step is not required to be carried out through one of the seven known methods of identification disclosed in the specifications; and

10. As used in the asserted claims of the patents in suit, the "comparing" step does not require there to be any difference in the extent of the target protein's folding in the test and control combinations.

Dated: December 15, 1999

UNITED STATES DISTRICT JUDGE